

age, as a critic or a censor. His own extensive library contained, in theology, in metaphysics, in history, belles lettres, natural philosophy, and every other department of useful knowledge, or polite accomplishment, all the literature of his varied and unremitting study. New books in every department, read by him, and on his parlor table upon their first publication, were, in due season, transferred to their proper shelves. His philosophical apparatus, constantly renewed from all parts of the world, was the collection of his long lifetime, and, like his library, was arranged according to the most improved plan. Possibly this apparatus may now, in some part, be antiquated. But I am informed that in certain departments, every modern improvement has been supplied, and that, under some heads, for example the polarization of light, the means and appliances for illustrative experiment are complete and unsurpassed.

He took pleasure in promoting and assisting the pursuit of useful knowledge by others. Such a man may, through such benevolence, contribute more to the diffusion of scientific information than those who justly obtain the praise of useful discoverers. Public lecturers on natural philosophy and on experimental chemistry, had always the free use of his apparatus. They frequently availed themselves of the privilege. I heard, in my childhood, public acknowledgments of his liberality in this respect; and they were, after the lapse of half a century, renewed in the hearing, perhaps, of others now present.

If I have described him rightly, it will be understood that he may have been eminently capable of comparing the results of investigations by other persons in different branches of art and science. This made his conversation often useful and instructive to practical men. Fallacious pretensions to originality of invention he detected at once, by intuition, as it were. He discerned, with as quick a glance, latent merit which was ultimately to succeed, not only in the practical, but likewise in the fine arts.

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*Stated Meeting, April 2, 1869.*

Present, twenty-two members.

JOHN C. CRESSON, Vice-President, in the Chair.

A letter accepting membership was received from S. Nillson, dated Lund, Sweden, 3d Marz, 1869.

A letter was received from Mr. J. Whiteaves, Curator of the Museum of the Natural History Society at Montreal, dated March 29, 1869, acknowledging the receipt of Transactions

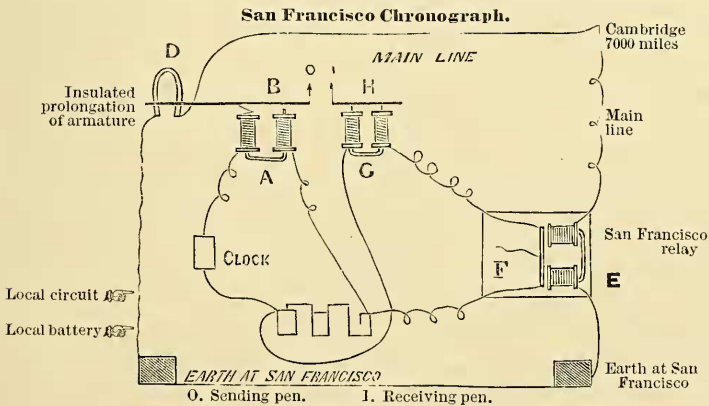
and Proceedings, and offering a set of the Canadian Naturalist in exchange.

A letter from the London Antiquarian Society, acknowledged the receipt of Proceedings, A. P. S., No. 80.

Donations for the Library were received from the London Geological Society, Essex Institute, Peabody Academy at Salem, New Bedford Library, George E. Ellis of Cambridge, New Jersey Historical Society, Franklin Institute, Academy of Natural Sciences, Philadelphia, and the Protestant Episcopal Church Hospital.

The decease of Dr. Robley Dunglison on the 1st inst., aged 71, at Philadelphia, was announced by Mr. Peale, and on motion of Mr. Fraley, Dr. Pancoast was appointed to prepare an obituary notice of the deceased.

Professor Trego communicated an extract from a letter from Mr. Davidson of the Coast Survey, to Mr. D. B. Smith of Germantown, detailing the method employed to obtain the recent determination of Longitude and the velocity of the electric current between Cambridge and San Francisco.



SAN FRANCISCO, *March 1st, 1869.*

I give you the first written news not only of our telegraph longitude success, but of the success of my plan for determining the *time of transmission of clock signals from my clock to Cambridge and back, over 7,000 miles of wire, through 13 repeaters and a multitude of relays.* Through the liberality of the Western Union Telegraph Company, I had two trans-continental lines placed at my use, and last night I succeeded

beautifully. My circuit was as follows. My clock breaks the local circuit every second, depriving the helix A of its electricity, and the magnet of its magnetism. This relieves the armature B, which is drawn away by a spring, and the pen C makes its record on the revolving cylinders of the chronograph. At the same instant the main current to Cambridge and back is broken by the insulated prolongation of the armature at D, and the break transmitted to Cambridge and back, through 7,000 miles of wire, to my relay E, which relieves the armature F, and the local circuit is broken; the helix G deprived of its electricity and the magnet of its magnetism, relieving the armature H, which is drawn away by a spring, and the pen I makes the record on the revolving cylinders of the chronograph. These two pens are on the same horizontal line. Our experiments show that it took 0.87 of a second to traverse the above circuit. I also made experiments through to Buffalo, Chicago, Omaha, Cheyenne, Salt Lake, and Virginia, and back. All successful. As this experiment was not contemplated by the programme of the longitude experiments, I have the satisfaction of seeing my ingenuity successfully proved.

Prof. Kirkwood communicated through Mr. Chase a discussion of the periodicity of the Sun's spots.

Mr. Chase made a communication of certain curious relationships of astronomical elements.

Mr. Dubois presented through Dr. Harris a specimen and analysis of silver ore.

Mr. Dubois offers the following recent notes from the Assay Office, U. S. Mint:

By far the largest single piece of silver ever brought to the Mint, was a cake or test-bottom, deposited on the 16th March, by Mr. Christian, President of the Brown Silver Mining Company, of Colorado. Its weight was 4,343 ounces troy, equal to 290 lbs. avoird. nearly. There was a small proportion of gold, and the net Mint value was 5,720 dollars, silver coin. This was stated to have been extracted from twenty tons of galena in the gangue; making about 286 dollars to the ton.

In the Report of the British Commission on International Coinage, lately published, we find an extract from the "Journal des Debats," of Nov. 13th, 1866, stating that the German assayers had found the average fineness of French gold coins of that year to be 898 thousandths, "and a fraction." It adds that this is an unworthy source of gain to Government, whose ambition it should be to have the coins *correct*.

The "Moniteur" of Nov. 20th (official organ), replies, that this is as near to standard as can be expected from the defects of practical operation; and that it is the duty of Government to prevent these "ill-founded criticisms."

Our own assays for many years, have proved a deficiency in the French coins, averaging about one thousandth.

The apology of the "Moniteur" has no just foundation. Both at this Mint, and at San Francisco, the gold coins are kept close to the mark, scarcely varying the tenth of a thousandth; as is proved by annual assays, and by foreign reports. British coinage is equally exact.

This fact affords an argument against the project of International Coinage. If we work to 900, and France to 899 or less, and both pass alike, the difference is against us.

We have a letter from a gentleman of South Carolina, an extract from which may lead to philosophical reflections, and therefore be in place:

"Our State, poor as it is, is full of coin. Planters will have nothing to do with securities. They can't spend money on negroes—they have land enough—and so they get gold, and bury it. I know of more than one who has over 30,000 dollars in gold, and of one who has 80,000 dollars.

"Even the 5 cent nickel is hoarded to an enormous extent. We have sent great quantities into the interior, but in travelling in the country you will never meet with them. I am told they are regarded as of full silver value."

Herewith is shown to the Society, a specimen of silver ore from the White Pine Region of Nevada, which is now drawing so much attention. This new mining district is in Lander county, in the mountain range, east of the Reese River district.

This specimen is from the "Black Spider Mine," and is a silicious gangue containing sulphides of copper and antimony, with rich seams of chloride of silver. It came marked "\$10,000 per ton," and Mr. Eckfeldt's assay found it to contain half that proportion; or as we prefer to say in such cases, \$2.50 per pound; inasmuch as such ores are not found by the ton; and it is desirable to avoid the grandiloquence which favors deception.

Mr. P. W. Sheaffer communicated through the Secretary some boring records from the Anthracite Basins.

The Committee on the disposal of the Hall reported, and on motion of Dr. Le Conte, the subject was postponed.

The Publication Committee requested instructions as to the disposal of ninety pages of new matter, with several wood cuts and two more plates inserted by Prof. Cope in the memoir now going through the press, explaining that the original estimate of cost would probably cover the expense of the new matter. On motion of Dr. Le Conte the subject was referred to the original Committee.

Pending nominations, Nos. 622 to 626 were read.

And the Society was adjourned.